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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,766	12/18/2001	Adrian Crisan	1662-55100 JMH (P01-3806)	4713
22879	7590	03/24/2006	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			ROMANO, JOHN J	
			ART UNIT	PAPER NUMBER
			2192	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<p><b>Application No.</b></p> <p>10/029,766</p>	<p><b>Applicant(s)</b></p> <p>CRISAN ET AL.</p>	
	<p><b>Examiner</b></p> <p>John J. Romano</p>	<p><b>Art Unit</b></p> <p>2192</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4-9, 11-16, 18-20, 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-9, 11-16, 18-20 and 27-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Remarks

1. Applicant's amendment and response received January 6<sup>th</sup>, 2006, responding to the October 20<sup>th</sup>, 2005, Office action provided in the rejections of claims 1, 4-9, 11-16, 18-20 and 27-28, wherein claims 1, 4-9, 11-16, 18-20 and 27-28 remain pending in the application and which have been fully considered by the examiner.

Applicant arguing for the claims being patentable over *Marsh* (see pages 6-12 of the amendment and response), primarily based on assertions on pages 6-10, where applicant contends that independent claims are not anticipated by *Marsh* and arguments pertaining to the dependent claims are not persuasive, as will be addressed under Prior Art's Arguments – Rejections section at item 2 and the claim rejections below. Accordingly, Applicants' arguments necessitated additional clarifications, in light of the rejection of the claims over prior art provided in the previous Office action, to further point out that *Marsh* discloses as such amended limitations. Thus, the rejection of the claims over prior art is maintained in light of the necessitated additional clarifications and rejections provided hereon and **THIS ACTION IS MADE FINAL.**

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Prior Art's Arguments – Rejections***

2. Applicant's arguments filed January 6<sup>th</sup>, 2006, in particular on page 8-10, have been fully considered but they are not persuasive. For example,

(A) In regard to the argument that *Marsh* discloses a "bootable kernel" which is an operating system (page 9, second paragraph of the amendment and response), the examiner respectfully disagrees. As indicated by the Applicant (page 8, last paragraph of the response), *Marsh* explicitly discloses:

[0005] A kernel is the central module of an operating system. It is the part of the operating system that loads first, and it remains in RAM...while still providing all the essential services required by other parts of the operating system and applications. (emphasis added)

Although the kernel may be the central part of the operating system, it is not the operating system. As an example, to simply portray the examiners position; a car has an engine, but an engine is not a car, even if the engine is the central part of the car.

The examiner acknowledges that a kernel may be a simple operating system; however, a kernel may also be interpreted as a central module to other programs as well. This is further evident by *Marsh's* illustration (See *Marsh*, Figure 2, element 450 +

434), wherein *Marsh* shows the kernel (450) and the operating system (434) as separate entities.

Additionally, *Marsh* discloses (See *Marsh*, Page 3, paragraph [0033]), the system loader directs the microprocessor (CPU), to load the bootable kernel (450), and the operating system (434), wherein again, they are separate entities. Furthermore, *Marsh* discloses that the firmware patch is different from prior art software patches, such as the patch is not reliant on the command infrastructure as defined by the operating system (Figure 4, Paragraph [0038]); again further implying that the operating system is not executed. Thus, *Marsh* certainly discloses flashing an upgrade, wherein the CPU programs its ROM, without execution of an operating system by the CPU. Therefore, the examiner maintains the rejection in regard to the instant argument.

(B) In regard to Applicant's argument that *Marsh* teaches away from the concept of upgrading the ROM without the execution of an operating system, based on *Marsh* disclosing loading the kernel (page 9, last paragraph of the amendment and response), the examiner respectfully disagrees. The examiner refers the Applicant to section (A), above, wherein *Marsh* discloses upgrading the ROM without the execution of an operating system. Therefore, the rejection is maintained in light of the instant argument.

(C) Accordingly, the dependent claims to independent claims 1, 9, 16 and 27 are rejected at least for the reasons disclosed hereinabove.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1, 4, 6, 7, 9, 11, 13, 15, 16, 18, 20, 27** and **28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al., US 2002/0073304 A1 (hereinafter **Marsh**) and further in view of **Asco** et al., US 6,516,346, (hereinafter **Asco**) and Jennery et al., US 6,742,025 (hereinafter **Jennery**).

In regard to claim **1**, **Marsh** discloses:

- *"A computer system, comprising:  
a central processing unit (CPU);..."* (E.g., see Fig. 1 & Page 3, [0027]), wherein, the microprocessor is the CPU.
- *"...and a programmable read only memory (ROM) coupled to said CPU..."* (E.g., see Fig. 1 & Page 1, [0007]), wherein, the non-volatile memory may be a EEPROM as disclosed in paragraph [0007] which is both erasable and programmable. Also, it is shown in Figure 1 that the ROM or non-volatile memory is coupled to the microprocessor.

- "... *said ROM containing a digital image; ...*" (E.g., see Fig. 1 & Page 2, [0013]), wherein, instructions from the programmable non-volatile memory or ROM are inherently a digital image; therefore the ROM contains a digital image.
- "... *wherein said CPU programs its ROM during a system initialization ... wherein the system initialization further comprises a booting of said system...*" (E.g., see Fig. 4 & Page 5, [0048]), wherein, the flash application designated in the modified boot image, selected upon the next boot of the computer (system initialization), is erasing and then programming the non-volatile memory or ROM.
- "... *without execution of an operating system by the CPU...*" (E.g., see Fig. 4 & Page 4, [0038]), wherein, the firmware patch is unique in that it contains the execution code necessary (kernel) to perform a firmware upgrade before the operating system is loaded and executed, wherein the kernel is interpreted as a code module.
- "... *a connection to a network...*" (E.g., see Fig. 5 & Page 4, [0042]), wherein, the system is presented within a network configuration.
- "... *flashes the system ROM with the upgraded image if the upgraded image is available for said ROM.*" (E.g., see Fig. 6 and Page 5, Paragraph [0047] and [0048]), wherein, the delivered firmware is the received upgraded image and the flash application flashes the ROM and installs the upgraded image.

But **Marsh** does not expressly disclose “...during the system initialization, said system sends a message to a server coupled to the network to determine whether an upgraded image is available for said ROM” or “...during the system initialization, said system receives an upgraded...”. However, **Asco** discloses:

- “...said system sends a message to a server coupled to the network to determine whether an upgraded image is available for said ROM...”

(E.g., see Fig. 3 and Column 4, lines 26-56), wherein, the microcode is the upgraded BIOS image for a programmable ROM.

**Marsh** and **Asco** are analogous art because they are both concerned with the same field of endeavor, namely, a firmware upgrade via the Internet. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify **Marsh’s** method for updating firmware with **Asco’s** invention. The motivation to do so would have been to further achieve **Asco’s** objective of “...making the upgrade process more user friendly...” (Page 1, lines 43-44). Each individual user would not have to find and remember details of Internet addresses for the microcode supplier. This would save time and increase productivity by letting the individual user focus on other tasks.

**Marsh** and **Asco** disclose the system as described above. But **Marsh** and **Asco** do not expressly disclose “...“...during the system initialization, said system sends a message to a server coupled to the network ...”. However **Jennery** discloses:

- “...during the system initialization, said system sends a message to a server coupled to the network...” (E.g., see Figure 8A (72) & Column



13, lines 36-39), wherein the system (network device), during system initialization, sends or forwards a message (trigger data) to a server coupled to a network.

- "...during the system initialization, said system receives an upgraded..." (E.g., see Figure 8A (76) & Column 3, lines 39-44), wherein the system (network device), during system initialization or boot sequence, receives (trigger data) from a server coupled to a network.

**Jennery**, and the combined teaching of **Marsh** and **Asco**, are analogous art because they are both concerned with the same field of endeavor, namely, an automated method to update software. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the combined teaching method for updating software with **Jennery's** invention. The motivation to do so would have been to further achieve **Marsh's** objective of "...avoiding manual intervention..." (Page 2, Paragraph [0013]), and **Asco's** objective as disclosed above.

In regard to claim 4, claim 4 is rejected as a system of previously disclosed claim 1, wherein the corresponding limitations of claim 4 are addressed in claim 1.

In regard to claim 6, **Marsh**, **Asco** and **Jennery** disclose the system of claim 1 above. But in claim 1, they did not disclose expressly "...wherein the message includes an indication of the version of the ROM's current image." However, **Asco** discloses:

- "...wherein the message includes an indication of the version of the ROM's current image." (E.g., see Fig. 3 & Column 1, lines 48-63),

wherein, the microcode level is the version of the ROM's current image.

In regard to claim **7**, **Marsh**, **Asco** and **Jennery** disclose the system of claim **1** above. But in claim **1**, they did not disclose expressly "...wherein the message includes an indication of the class of the ROM." However, **Asco** discloses:

- "...wherein the message includes an indication of the an indication of the class of the ROM." (E.g., see Fig. 3 & Column 1, lines 48-63), wherein, the relevant hardware configuration is an indication of the class of the ROM.

In regard to claim **9**, claim **9** is rejected as a method version of claim **1**. Correspondingly, **Marsh**, **Asco** and **Jennery** disclose the limitations of claim **9** as described above in claim **1**. Thus the limitations are met for claim **9** as disclosed in the respective above claims.

Respectively, claims **11**, **13** and **15** are rejected as method versions of claims **4**, **6** and **7**. Likewise, the limitations of the aforementioned claims are disclosed as described in their corresponding claims. Thus, the limitations are met for claims **11**, **13** and **15**.

In regard to claim **16**, **Marsh** discloses "A ROM image system..." as disclosed in claim **1**, wherein the system of claim **1** is presented within a network configuration. But **Marsh** does not disclose expressly "...a server; and a database accessible by said server, said database storing information regarding ROM images; wherein said server receives a message from computer to determine if an upgrade exists for the computer's

*ROM image, uses said information to determine if an upgrade is available for the computer's ROM image and transmits a message to the computer indicating whether an upgrade is available" or a "...message from a computer that is currently undergoing a system initialization..." and "...transmits a message to the computer indicating whether an upgrade is available during the system initialization of the computer."* However, **Asco** discloses:

- *"...comprising: a server; and a database accessible by said server, said database storing information regarding ROM images; wherein said server receives a message from computer to determine if an upgrade exists for the computer's ROM image, uses said information to determine if an upgrade is available for the computer's ROM image and transmits a message to the computer indicating whether an upgrade is available."* (E.g., see Figure 2 & Column 1 lines 45 - 63), wherein the remote system is the server and the database associated with the remote system contains current microcode level and configuration information regarding the computer's ROM image. The notification to the computer system is the message indicating that an updated image is available.

But, **Asco** does not expressly disclose a *"...message from a computer that is currently undergoing a system initialization..."* and *"...transmits a message to the computer indicating whether an upgrade is available during the system initialization of the computer."* However, **Jennery** discloses:

- "...message from a computer that is currently undergoing a system initialization..." (E.g., see Figure 8A (72) & Column 13, lines 36-39), wherein the system (network device), during system initialization, sends or forwards a message (trigger data) to a server coupled to a network..
- "...transmits a message to the computer indicating whether an upgrade is available during the system initialization of the computer." E.g., see Figure 8A (76) & Column 3, lines 39-44), wherein the system (network device), during system initialization or boot sequence, receives (trigger data) from a server coupled to a network.

The remaining limitations are met as disclosed in claim 1.

In regard to claim **18**, the rejections of base claim **16** are incorporated as explained above. Furthermore, **Asco** discloses:

- "...said response includes a pointer to where an upgraded image is located." (E.g., see Figure 1 & Column 2, lines 23-27), wherein, the Internet address is a pointer to where an upgraded image is located.

In regard to claim **20**, **Marsh**, **Asco** and **Jennery** disclose the method of claim **18** as explained above. Furthermore, **Asco** discloses:

- "...said pointer includes an IP address." (E.g., see Column 2, lines 23 - 27), wherein, the Internet Address is a pointer, which includes an IP address.

In regard to claim **27**, claim **27** encompasses some limitations from claim **16** and claim **1**, and also includes further limitations disclosed by **Asco**. Claim **1** discloses a computer having a programmable ROM coupled to a server communicating with a network, during initialization, without execution of an operating system associated with the CPU. Claim **16** discloses a request to a server, including storage for a ROM image, and a computer requesting a ROM image update from the said server. But the aforementioned claims do not expressly disclose: *"...proxy enterprise ROM server to which the computers couple, said proxy enterprise ROM server communicating with a network external to the enterprise..."* or *"...a plurality of computers..."* or *"...includes a first storage area for an untested ROM image update, and a second storage area for an approved ROM image update..."* or *"... checks the second storage area for the approved ROM image update to be installed in the at least one of said computers, wherein the approved ROM image update comprises the untested ROM image update that has undergone at least one suitable approval test..."*. However, **Asco** discloses:

- *"... a proxy enterprise ROM server to which the computers couple, said proxy enterprise ROM server communicating with a network external to the enterprise..."* and *"...a plurality of computers..."*. (E.g., see Figure 2 & Column 2, line 64 – Column 3, line 10), wherein, a proxy server to which computers are coupled is the enterprise ROM server. A wide area data processing network comprising a local network connected via the Internet is interpreted as an enterprise computing system comprising a plurality of computers

But, **Marsh, Asco and Jennery** do not expressly disclose “...*includes a first storage area for an untested ROM image update, and a second storage area for an approved ROM image update...*” or “... *checks the second storage area for the approved ROM image update to be installed in the at least one of said computers, wherein the approved ROM image update comprises the untested ROM image update that has undergone at least one suitable approval test...*”. However, it would have been obvious to one of ordinary skill in the art, to test the upgrade before deploying it. It would have been obvious because it is old and well known in the art that before an upgrade or revision is issued for deploying it should be tested. Therefore it would have been obvious to include a first storage area for an untested ROM image update and to install the tested upgrade image as is well known in the art.

In regard to claim **28**, the rejections of base claim **1** are incorporated.

Furthermore, **Jennery** discloses:

- “...*upon each occurrence of the system initialization*”. (E.g., see Figure 8A (72) & Column 13, lines 36-39), wherein the system (network device), during system boot sequence, which happens on each occurrence of the system initialization, sends or forwards a message (trigger data) to a server coupled to a network.

4. Claims **5**, **12** and **19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Marsh**, **Asco** and **Jennery** as applied to claim **1** above, and further in view of **Martinez**.

In regard to claim **5**, **Marsh**, **Asco** and **Jennery** disclose the system of claim **1** above. But in claim **1**, they did not disclose expressly "...wherein said system receives a link to another server which provides the upgraded image." However, **Martinez** (US 6,594,757), discloses:

- "...wherein said system receives a link to another server which provides the upgraded image." (E.g., see Fig. 3A & Column 2, line 65 – Column 3, line 2), wherein it would have been obvious to a person of ordinary skill in the art to store a web page on a server.

**Martinez** and the combined teachings of **Marsh**, **Asco** and **Jennery**, are analogous art because they are both concerned with the same field of endeavor, namely, an upgradeable BIOS program. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement **Martinez's** limitation into the combined teaching method for updating firmware. The motivation to do so would have been to further decrease manual intervention by simply providing the URL to an executable rather than manually downloading it to a pre-specified server. The advantages would be time and cost savings.

Claim **12** is rejected as method versions of claim **5**. Likewise, the limitations of the aforementioned claim are disclosed as described. Thus, the limitations are met for claim **12**.

In regard to claim **19**, the rejections of base claim **18** are incorporated as explained above. Furthermore, **Martinez** discloses:

- "...said pointer includes a URL." (E.g., see Figure 3A & Column 2, line 65 – Column 3, line 2), wherein the retrieved page is a pointer which includes a URL.

5. Claims **8** and **14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Marsh, Asco** and **Jennery** as applied to claim **1** above, and further in view of **Olarig** (US 6,009,524).

In regard to claim **8**, **Marsh, Asco** and **Jennery** disclose the system of claim **1** above. But in claim **1**, they did not disclose expressly "...wherein said message includes an encryption key to be used to help assure the authenticity of the image."

However, **Olarig** discloses:

- "...wherein said message includes an encryption key to be used to help assure the authenticity of the image." (E.g., see Fig. 2 & Column 4, lines 59-67), wherein, a dual-key digital-signature-verification system are used to assure authenticity.

**Olarig** and the combined teachings of **Marsh, Asco** and **Jennery** are analogous art because they are both concerned with the same field of endeavor, namely, an upgradeable BIOS program. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement **Olarig's** limitation into the combined teaching method for updating firmware. The motivation to



do so would have been to assure authenticity of the BIOS program. Thereby, eliminating a tampered program that could have severe time and cost consequences in addition to security issues.


Claim **14** is rejected as a method version of claim **8**. Likewise, the limitations of the aforementioned claim are disclosed as described. Thus, the limitations are met for claim **12**.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Romano whose telephone number is (571) 272-3872. The examiner can normally be reached on 8-5:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
TUAN DAM  
SUPERVISORY PATENT EXAMINER